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Mutant "pro-neurotrophins" whose corresponding growth factor is secreted more efficiently from host cells than wild-type growth factor. Such improved activity is obtained through substitution of a residue in the precursor protein ("prepro") region of a pro-form of a growth factor. Pro-neurotrophins contain at least one conserved asparagine-based N-glycosylation site present upstream of the cleavage site for separation of the corresponding neurotrophin. The invention substitutes the asparagine with a basic residue, such as serine. At the higher levels of extracellular growth factor achieved by the invention, the bioavailability, and therefore the therapeutic potential of the corresponding mature protein is enhanced.